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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,024	05/28/2002	Noriyuki Honda	9792486-0111	3010

7590 12/16/2004
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EXAMINER

HARRISON, MONICA D

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,024

Applicant(s)

HONDA ET AL.

Examiner

Monica D. Harrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-15 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. The amendment filed September 16, 2004 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sawamoto (6,426,566 B1).

2. Regarding claim 1, Sawamoto discloses an electrical connection material for electrically connecting an electrical connection portion of a first object and an electrical connection portion of a second object, the electrical connection material comprising: a first film-like adhesive layer composed of a plurality of conductive particles (Figure 1, reference 31, a first binder containing the conductive particles (Figure 1, reference 36) and a first fillers (column 7, lines 22-37) said first film-like adhesive layer having oppositely facing first and second major surfaces; and a second film-like adhesive layer across one of said first and second major surfaces of said first film-like adhesive layer (Figure 1, reference 3) and is composed of a second filler and a second binder whose viscosity is lower than that of said first binder (column 7, lines 22-37, *viscosity level is inherently lower merely because their chemical composition is different*).

3. Regarding claim 2, Sawamoto discloses wherein said conductive particles have an approximately uniform particle diameter (Figure 1, reference 36).

4. Regarding claim 3, Sawamoto discloses wherein the material of said second film-like adhesive layer composed of said second binder and said second filler is a binder having the same material as that of or a material similar to said first binder of said first film-like adhesive layer containing said conductive particles (Figure 1, reference 3).

5. Regarding claim 4, Sawamoto discloses wherein the viscosity of said second film-like adhesive layer becomes extremely lower than the viscosity of said first film-like adhesive layer in a heating process (Figure 8A, reference 51; *the viscosity is inherently different because the make up of the layers are different*).

6. Regarding claim 5, Sawamoto discloses wherein the thickness of said first film-like adhesive layer containing said conductive particles is set to from approximately the same thickness as the diameter of said conductive particles up to about 4 times the diameter (Figure 1, reference 36).

7. Regarding claim 6, Sawamoto discloses wherein in order that the viscosity of said second film-like adhesive layer composed of said second binder and said second filler is set to a value lower than the viscosity of said first film-like adhesive layer containing said conductive particles, the diameter of said second filler particles is set to a value larger than the diameter of said first filler particles (Figure 1, reference 36; *the viscosity is inherently different because the make up of the layers are different which will also have a change in the diameter of the conductive particles*).

8. Regarding claim 7, Sawamoto discloses in order that the viscosity of said second film-like adhesive layer composed of said second binder and said second filler is set to a value lower than the viscosity of said first film-like adhesive layer containing said conductive particles,

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the content by amount of said second filler is set to a value smaller than the content of said first filler (Figure 1, reference 3; *the viscosity is inherently different since the make up of the layers are different*).

9. Regarding claim 8, Sawamoto discloses wherein said first filler and said second filler are materials reducing the coefficient of water absorption and the coefficient of linear expansion of a binder (Figure 1, references 3 and 31).

10. Regarding claim 9, Sawamoto discloses wherein the electrical connection portion of said first object is a wiring pattern on a circuit substrate (Figure 1, reference 21), the electrical connection portion of said second object is a protrusion electrode of an electrical component (Figure 1, reference 3; *has a metal incorporated within the makeup of the layer*), and said conductive particles in said first film-like adhesive layer containing said conductive particles electrically connect the wiring pattern on said circuit substrate and the protrusion electrode of said electrical component (Figure 1, reference 36).

11. Regarding claim 10, Sawamoto discloses wherein the elements of said first binder containing said conductive particles and said second binder of said second film-like adhesive layer are the same or approximately similar (Figure 1, references 3 and 31).

12. Regarding claim 11, Sawamoto discloses an electrical connection material comprising a first film-like adhesive layer composed of a first binder and a first filler, said first film-like adhesive layer having oppositely facing first and second major surfaces (Figure 1, reference 31); and a second film-like adhesive layer across one of said first and second major surfaces and which is composed of a second binder and a second filler and is arranged on said first film-like adhesive layer (Figure 1, reference 3), wherein said first binder is made of a first

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high molecular resin material and said second binder is made of a second high molecular resin material whose molecular weight is smaller than that of said first high molecular resin material (Figure 1, references 3 and 31).

Allowable Subject Matter

13. Claims 12-15 are allowed over the prior art of record.

Reasons For Allowance

14. The following is an examiner's statement of reasons for allowance: The primary reason for allowance of the claims is that the prior art neither teaches nor fairly suggest an electrical connection method as presented in independent claims 12. Major emphasis is being placed upon the provision of "*heating and pressurization at a temperature and under a pressure at which said second film-like adhesive layer has a viscosity lower than that of said first film-like adhesive layers bringing together said electrical connection portion of said first and second objects sufficiently to cause said electrical connection portion of said second object to penetrate said second film-like adhesive layer for electrically connecting the electrical connection portion of said first object and the electrical connection portion of said second object by means of said conductive particles of said first film-like adhesive layer; and heating said resultant arrangement at a temperature-sufficient to cause said first and second film-like adhesive layers to cure into sufficiently harden states.*", in combination with other limitations of the said claim and its dependent ones.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

15. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection. Claims 12-15 have been allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica D. Harrison whose telephone number is 571-272-1959. The examiner can normally be reached on M-F 7:00am-3:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monica D. Harrison
AU 2829

mdh
December 13, 2004


EVAN PERT
PRIMARY EXAMINER